

valowsky, and that a miserable specimen it is, though American engineers did construct it. The rails are so uneven that the carriages think nothing of eloping from the line and walking into adjoining meadows; [we have leaping engines of our own by the way, which not even the straightest of rails will keep in the way that they should go], and the pace is not alarmingly frightful, for we are forty-five minutes traversing ten miles. You receive a ticket, which appoints a particular seat in a particular carriage of a particular train, at your disposal; and if you light a cigar, Government provides you gratuitously with a safe escort to the frontier, a useful and economical mode of travelling in case of bankruptcy. After one of the late accidents on this line, the Emperor was the first person to venture on it again, to show his subjects the folly of being alarmed. This was necessary, for travelling by rail being new, a panic might have deterred passengers from risking their lives on it again.

IMPROVEMENT OF 'LABOURERS' COTTAGES.

THE Royal Agricultural Society has, in its list of prizes for the ensuing year, included one of 50*l.* for the best, and 20*l.* for the second best, essay "On the Construction of Labourers' Cottages." The conditions of competition are worthy notice, viz., "The best and most economical mode of building a pair of labourers' cottages, with three bed-rooms in each. The paper to be accompanied by plans, elevations, and specifications, with prices affixed, enabling those who are desirous of building cottages to calculate the cost accurately. If ornament be introduced, the same to be estimated separately. The winner of the first prize will be expected, if requested, to supply a model for the use of the society." The *Bury Post* remarks on this, that, "the stipulation for three bed-rooms in each cottage is most proper: and it would not have been amiss to have added that two of them at least should contain fire-places, the want of which, in cases of illness, is frequently of serious consequence. Where three bed-rooms are built on the same floor above, it ensures ample space in the lower apartments, on the judicious employment of which will greatly depend the amount of comfort the cottage may afford. It is not, we think, advisable in any case to divide this space into two sitting-rooms, which supply a temptation to take in lodgers, and other practices not conducive to the comforts of the family. One good sized living-room, comfortably fitted up, with convenient pantry, &c., will, even for a large family, be found on the whole more useful than two small rooms." In the fitting up of this sitting-room the Royal Society has again done good service by offering a premium, previous to the York meeting, for the best cottage stove, which was well responded to in the exhibition of several greatly superior to those in general use in this district. The prize was obtained by Mr. Nicholson, of Newark-upon-Trent, for a stove thus described:—"A compact and convenient range, with oven and boiler, with registered improvements, which consist, 1. Of a complete fire-brick lining for the fire part, by which the oven and boiler are thoroughly protected from the action of the fire, and their efficiency and durability greatly increased. 2. An improved form of fire, allowing a much greater portion of heat, with a less consumption of fuel; one peculiarity of this is, that no bottom grate is used or required. 3. A new form of range, allowing a complete radiation of heat, whilst the smallest coal or cinders are thoroughly consumed, and the top bar so contrived that it will fall both ways: the range also can be removed, and the whole of the remains of the fire cleaned out in an instant. 4. An improvement on the fitting and position of the door of the oven, affording great durability and convenience, and also in the square lid of the boiler; and, lastly, a general improvement in the flues and fitting of the range. Price for 3 feet 4 inches opening, 2*l.* 2*s.*" The same article for an opening 2 inches less in width, might be purchased for 1*l.* 15*s.*, and for 4 inches more, at 2*l.* 10*s.*

The *Morning Herald*, in a leading article on the importance of providing the labouring classes with a better description of house

accommodation, says, as we have ourselves often said before,—"It is the first step towards the improvement of the social condition of the poor. It is the only thing that can lead up the labouring man to that self-respect which is the best preservative against moral contagion. 'Give a man a Bible and a calling,' said Robert Hall, thinking that he had named everything that is necessary to keep mankind out of mischief. Give him a home, too, we would add. It is the want of a home that makes thieves, drunkards, and vagabonds. The bricklayer must precede the schoolmaster in the country and in the town. Let the parent have a comfortable home, and there is little fear either for himself or his children. If there be order, decency, and regularity in his little household, comfort and happiness are sure to be there. Give the poor man something to take a pride in; let him have the means of cleanliness and privacy at home; let him feel that, whilst he respects himself, he is respected by others,—and the tavern and gin-shop will lose all their charms. We know nothing better than the philanthropist can do than build houses for the poor: nay, there is nothing better that the capitalist can do, for no investment is more profitable. Whether in town or country, our labouring men pay a rent out of all proportion to the real value of the tenements they inhabit."

Correspondence.

AN INQUIRY—DRYING ROOMS.

SIR,—Allow me, through the medium of your widely circulated paper, to inquire the best mode of heating a moderate sized room for drying wood for joiner's work.

G. P.

Miscellaneous.

PREVENTION OF BOILER EXPLOSIONS.—At the Institution of Mechanical Engineers, Mr. W. Smith lately read a paper on the construction of the exploded boiler at Dudley, and on others of a similar construction, and pointed out how, in his opinion, a small extra outlay only would be requisite to make the boilers perfectly safe, which outlay would be more than repaid by the economy in working. Mr. Gibbins suggested the use of a simple alarm. Such a preventive, as we have before noted, has been already invented by Mr. Strong, the manager of Messrs. Cox's steam-press, and has been in useful operation some years. The mere introduction of a gas-pipe to the boiler, acted on by hydrostatic pressure, was remarked by Mr. Gibbins as being all that was necessary.—A Liverpool paper states that a discovery has been made which will render explosion almost impossible. It is that of a supply pump, which keeps the boiler filled to any required level whether the engine be at work or not.—Mr. Edward Walsley, cotton-spinner, Bankfield-mills, Heaton Norris, has pointed out what he conceives to be a fatal mistake in the ordinary principle or action of the safety valve. "For instance, a 4-inch valve has an area of about 12½ square inches, and will allow to pass in a given time, say 12½ cubic inches of steam. The circumference being also about 12½ inches, it is evident that the disc must rise 1 inch to permit the escape of 12½ cubic inches of steam within the same time. Such a circumstance was never known." Mr. Walsley has patented an apparatus, of which it is also said that it will render explosions impossible. A bucket with a dribbling hole and small tail valve is suspended from the prolonged end of the lever of the safety valve, and a pipe communicates with the ordinary feed-pipe, so that when the steam gets beyond a certain height, about a quart of water is discharged into the bucket, which raises the valve and allows the steam to escape through a large pipe outside, whilst a cold air damper is opened and the fire is cooled. The valve then closes. With water too low the cold air damper again comes into action.—A true bill, at the instance of the Crown, has been found against Mr. Fogg, the factory manager at Preston, in a recent case of explosion, for manslaughter.

PROJECTED WORKS.—Advertisements have been issued for tenders by 2nd October, for the erection of the Reading Savings Bank; by 7th, for the erection of a Union Work-house, for 500 inmates, at Erpingham; by 2nd, for the conversion of a portion of a building into a school-room at Croydon Barracks; by 25th inst., for the erection of a gas work at Soham; by 2nd October, for supplying paving and curb stones, gravel, &c., and bricklayers', carpenters', smiths', and ironmongers' work, for St. Giles's, Camberwell; by 27th inst., for repairs, &c., of service-pipes, lamps, and fittings, in St. Mary's, Whitechapel; by 1st November, for locomotive and other stores for the London and North-Western Railway; by 28th inst., for 250 tons of English tough cake copper, for navy; and by 27th, for a supply of paint, cast-steel files, &c., for East-India Company.

THE SERPENTINE.—Sir John Rennie commenced a survey of the Serpentine on Monday last.

CAMBRIDGE ARCHEOLOGICAL CONGRESS.—The second annual meeting of the Cambridge Association was held last week at Carnarvon. Excursions were made on Tuesday into Anglesey by one party, and through some of the most interesting parts of the Carnarvon district by another; the former visiting the churches of Llangadwaladr, and Aberffraw and the Henblas Cromlech; and the latter Dolbardarn tower, Llanberis Church, the Roman road at Aberglaslyn, Castell Cidwmi, &c. In the evening the following papers were read:—"On Druidic Stones," by the Rev. John Williams, of Neuquis; "On the Cromlech," by the Rev. J. Jones, of Llanillyfni; "On Cantref y Gwaedod," by the Rev. Griffith Williams, of Llangollen; "On the Architectural Features of Bangor Cathedral," by the Rev. H. Longueville Jones, M.A., of Beaumaris. Excursions were also made on Wednesday; one to Clynog, the British encampment at Treceiri, and the scene of Vortigern's death; the other through the Nantlle quarries and pass, visiting the British and Roman remains there, the Roman station at Dinas Duille, &c.; and in the evening the general meeting was held, and the following papers were read, viz.:—"On Cwm Hir Abbey," by the Rev. W. Rees, M.A., of Casco; "On Aberdaron Church," by the Rev. H. Longueville Jones, M.A.; "On the Interior of Medieval Buildings," by the Rev. John Parker, M.A.; "On the Gold Plate in the Carnarvon Museum," by J. O. Westwood, Esq.

THE EVIL OF WANT OF UNDERSTANDING BETWEEN HUSBAND AND WIFE.—During the sale at Stowe, a beautiful statue of Venus rising from the sea, which stood in an alcove built on purpose for its reception, was hotly bid for by two rival agents, until it was knocked down at a considerably higher price than its value. The report is, that the agents represented the Queen and Prince Albert, who each wanted it to present to the other. Prince Albert was the purchaser.

THE CHANDOS PORTRAIT OF SHAKESPEARE.—This celebrated picture, in spite of doubts one of the most interesting items in the Stowe sale, was purchased by the Earl of Ellesmere for 355 guineas. This picture ought to go to Shakspeare's house, at Stratford. It seems not improbable, indeed, that Lord Ellesmere may intend placing it there, his lordship being known to take considerable interest in the proper management of this national shrine.

NEW DESIGN FOR EARTHENWARE.—Mr. G. Cruikshank's plates on the Bottle and Drunkard's Children will soon be familiar as "household words." A Sunderland pottery company have purchased the right, and have brought out copies of these plates upon articles of earthenware.

HOW TO HARDEN GYPSUM.—It is known that calcined gypsum, after being moistened with a solution of alum and again burnt, acquires much greater hardness and solidity. Mr. Kreating recommends for the same purpose a solution of 1 lb. of borax in 9 lbs. of water, which is poured over the calcined fragments of gypsum. They are then kept at a strong red heat for six hours, ground to a powder, and worked. The effect is said to be still better if a pound of tartar and twice the quantity of water are added to the solution.—*Liebig's Annalen.*